

1 **Claims**

2 **Claim 1.** A computer-implemented prescription management
3 system for use by a prescriber in creating a prescription at
4 a point of patient care, said prescription being usable by a
5 pharmacist to dispense drugs, said prescription management
6 system comprising:

7 a) electronic posting means to select and capture in said
8 prescription:

9 i) a patient identifier;

10 ii) a prescribed drug;

11 iii) a dosage for said prescribed drug; and

12 iv) a patient condition intended by said prescriber to
13 be treated by said prescribed drug; and

14 b) a displayable library of prescribable drugs; and

15 c) displayable patient drug formulary information to

16 indicate to said prescriber-user selected ones of said

17 prescribable drugs included within a drug formulary

18 associated with said patient to enable compliance with drug

19 formulary guidelines at the point-of-care.

20

21 **Claim 2.** A prescription management system according to

22 Claim 1 having means to track preferred data usage by a user

23 and to adapt data displays to favor such preferred usage,

24 whereby the system learns and adapts to a user's habits.

25

26 **Claim 3.** A prescription management system according to

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A2

1 Claim 2 wherein at least one said preferred usage data
2 display comprises a personal-preference condition-selection
3 list for each system user.

4
5 **Claim 4.** A prescription management system according to
6 Claim 2 wherein at least one said preferred usage data
7 display comprises a personal-preference drug-selection list
8 for each system user.

9
10 **Claim 5.** A prescription management system according to
11 Claim 1 further comprising a patient history record
12 displayed online, said patient history record listing
13 electronically available prior prescriptions, said prior
14 prescriptions each including a prescribed drug and a
15 condition treatment objective for each drug prescribed,
16 system-created prescriptions being system-added to said
17 history record.

18
19 **Claim 6.** A prescription management system according to
20 Claim 5 comprising a patient condition list for selection of
21 a patient condition for posting to said prescription, said
22 patient condition list comprising patient conditions listed
23 in said patient history record.

24
25 **Claim 7.** A prescription management system according to
26 Claim 1 comprising a source-oriented data-retrieval

1 subsystem, said data retrieval subsystem accessing at least
2 one data-retrieval networks to supply an array of up-to-date
3 prescribing information and patient-related data to the
4 point-of-care from remote source databases.

5
6 **Claim 8.** A prescription management system according to
7 Claim 7 wherein said data-retrieval subsystem is linked to
8 the prescription management system to provide allergy and
9 interaction alerts, formulary changes, new drug approvals,
10 and to lock out or warn against, the prescribing of
11 inappropriate or recalled drugs.

12
13 **Claim 9.** A prescription management system according to
14 Claim 1 wherein said patient history record is dynamically
15 assembled online in response to a user request from multiple
16 source record elements retrieved from multiple heterogenous
17 remote databases.

18
19 **Claim 10.** A prescription management system according to
20 Claim 9 implemented on a user interface device configured
21 for networked digital communication with a host computer
22 facility, wherein said patient history record is retrieved
23 as said record elements from said remote databases by said
24 host computer facility in response to a call from said user
25 device said remote source databases being selected and
26 identified according to said patient's prior geographical

1 locations and health-care service providers.

2
3 **Claim 11.** A prescription management system according to
4 Claim 5 wherein said patient history record is a virtual
5 patient record newly assembled online in response to each
6 user request for said record thereby to be current with
7 regard to possible remote updates of said source record
8 elements.

9
10 **Claim 12.** A prescription management system according to
11 Claim 11 wherein said host computer facility logs the time,
12 date and user calling for said virtual patient record to
13 provide an audit trail of access to said patient's record,
14 or a provider's or organization's data.

15
16 **Claim 13.** A prescription management system according to
17 Claim 11 deployed comprehensively throughout a geographical
18 area, demographic, company, plan or community group whereby
19 all drug prescriptions created in said area are products of
20 said system and wherein all said drug prescriptions are
21 posted to source databases accessible to said system whereby
22 a complete patient history record of all drug prescriptions
23 created for said patient in said geographical area,
24 demographic, company, plan or community group can be listed
25 in said dynamically assembled virtual patient record.

26

1 **Claim 14.** A prescription management system according to
2 Claim 1 wherein said drugs in said drug list are classified
3 according to a patient condition for which said drugs have
4 efficacy and said prescription management system further
5 comprises a patient-condition specification procedure for
6 selecting said condition from groups of possible conditions
7 and an onscreen drug selection procedure for selecting said
8 prescribed drug from said library, listing multiple drugs
9 for treating each said patient problem.

10
11 **Claim 15.** A prescription management system according to
12 Claim 1 wherein said patient drug formulary display means
13 comprises a condition-driven formulary drug list, and a
14 condition-driven nonformulary drug list, said drug lists
15 being changeable according to the patient selected.

16
17 **Claim 16.** A prescription management system according to
18 Claim 15 wherein said system provides drug efficacy
19 guidelines based on patient information and formulary
20 information.

21
22 **Claim 17.** A prescription management system according to
23 claim 3
24 wherein said prescriber-user's personal-preference list of
25 drugs displayed with formulary drugs indicated.

26

1 **Claim 18.** A prescription management system according to
2 Claim 1 including relative cost information for displayed
3 formulary drugs.
4

5 **Claim 19.** A prescription management system according to
6 Claim 1 wherein said drug formulary is generated by a
7 prescription benefits management company by providing
8 computer access to remote databases containing said drug
9 formulary information whereby appropriate formulary drugs
10 are presented to said user on screen on a user interface
11 device deployable at said point-of-care, to facilitate
12 compliance with drug formulary guidelines at said point-of-
13 care.
14

15 **Claim 20.** A prescription management system according to
16 Claim 1
17 wherein prescribability of a drug pursuant to formulary
18 guidelines is formulary-qualified according to said patient
19 condition.
20

21 **Claim 21.** A prescription management system according to
22 Claim 1 comprising built-in logic for accessing drug
23 formulary information from multiple drug formulary providers
24 wherein said drug formulary list is selected from said
25 multiple available drug formularies according to said
26 patient identification, said patient having a prior

1 arrangement with said drug formulary provider to provide
2 prescription-related benefits to that patient, said drug
3 formulary list information being dynamically presented to
4 said prescriber-user in the form of at least one selection
5 of patient-specific formularies from which a formulary
6 status indication relevant to a patient therapy-related
7 choice made by said prescriber-user is made.

8
9 **Claim 22.** A prescription management system according to
10 Claim 21 comprising network data communication means to
11 update and maintain said multiple available formularies from
12 remote source databases of formulary information.

13
14 **Claim 23.** A prescription management system according to
15 Claim 1 wherein comprising means to categorize and display
16 said patient conditions categorized into multiple lists,
17 said lists being selected from the group consisting of a
18 personal condition list of conditions encountered by the
19 prescriber, a historical condition list of conditions
20 exhibited by the patient, one or more prescriber-customized
21 condition lists, a body system condition list, conditions
22 organized according to disease pathology, therapy, personal
23 knowledge and others.

24
25 **Claim 24.** A prescription management system according to
26 Claim 23 wherein drug selection is condition driven and said

1 prescriber selects a patient condition to be treated via at
2 least one of said condition lists.

3

4 **Claim 25.** A prescription management system according to
5 Claim 24 wherein a prescriber-user can intelligently to
6 access a large body of drug data selections via multiple
7 condition-driven routes to provide multiple mapping so that
8 the user can find a suitable drug or selection of drugs via
9 different pathways according to their preferred work
10 methods.

11

12 **Claim 26.** A prescription management system according to
13 Claim 1 wherein said electronic posting means can select and
14 capture dosage and route of administration information, and
15 optionally, length-of-treatment and generic substitution
16 authorization information, for a selected drug, said
17 information being system-available for all listed drugs.

18

19 **Claim 27.** A prescription management system according to
20 Claim 26 comprising network data communication means to
21 update and maintain said dosage information said dosage
22 information being dynamically supplied from a remote source
23 database when called by the system.

24

25 **Claim 28.** A prescription management system according to
26 Claim 1 comprising a prescription expiration routine

1 including dosing, amount and expiration drug quantifiers and
2 system calculation of a relationship between said drug
3 quantifiers where said system provides default values for
4 unspecified ones of said drug quantifiers in response to
5 user selection of one or more of said drug quantifiers and
6 optionally patient history information, formulary
7 information indicating preferred drug lists for treatment.
8

9 **Claim 29.** A prescription management system according to
10 Claim 2 comprising a patient data access control subsystem
11 including data access control specification means enabling a
12 patient to authorize a user to access said patient's history
13 data and comprising data access control means whereby only
14 an authorized user can access said patient's data.
15

16 **Claim 30.** A prescription management system according to
17 Claim 29 comprising a patient data access auditor; said
18 patient data access auditor generating an access record
19 logging information as to the time date and identity of
20 entities accessing said patient history data, to provide a
21 patient data access audit trail and optionally further
22 comprising similar access audit means for generating an
23 access record logging similar information regarding access
24 to a prescriber's or organization's data.
25

26 **Claim 31.** A prescription management system according to

1 Claim 1 comprising a patient data access subsystem providing
2 patient-directed control of the flow of their own data.

3
4 **Claim 32.** A prescription management system according to
5 Claim 31 wherein said patient-directed data-access control
6 is achieved by centrally inputting to said patient data
7 access subsystem at a host computer facility, patient-
8 generated record-access specifications determining which
9 parties can access what data during what period of time.

10
11 **Claim 33.** A prescription management system according to
12 Claim 32 wherein said patient-generated record-access
13 specifications provide a patient security profile in a pre-
14 authorization file said pre-authorization file being used to
15 control access to said patient's data.

16
17 **Claim 34.** A prescription management system according to
18 Claim 1 comprising user-related historical records generated
19 by operation of said system by a prescriber-user, a user
20 data-access control subsystem including data-access control
21 specification means enabling a user to authorize selective
22 third party access to said user's history data and
23 comprising data access control means whereby only an
24 authorized third party can access said user's data and what
25 data type may be accessed by what organization or provider.

26

1 Claim 35. A prescription management system according to
2 Claim 20 comprising a user data access auditor, said user
3 data access auditor generating an access record logging
4 information as to the time date and identity of third
5 parties accessing said user history data, to provide a user
6 data access audit trail.

7
8 Claim 36. A prescription management system according to
9 Claim 1 comprising organization-generated source data
10 retrievable for display in said prescription-management
11 system from at least one remote database an organization-
12 directed data-access control subsystem including data-access
13 control specification means enabling an organization to
14 authorize selective third party access to said organization-
15 generated source data and comprising data access control
16 means whereby only an authorized third party can access said
17 organization-generated source data.

18
19 Claim 37. A prescription management system according to
20 Claim 36 comprising an organization data access auditor,
21 said organization data access auditor generating an access
22 record logging information as to the time date and identity
23 of third parties accessing said organization-generated
24 source data to provide an organization data access audit
25 trail.

26

1 **Claim 38.** A prescription management system according to
2 **Claim 2** comprising newly created prescription evaluation
3 means to evaluate a newly prescribed drug for system-known
4 patient allergies or drug-to-drug interactions, or drug-to-
5 multiple drug interactions and absolute contraindications
6 with currently prescribed drugs, as known to the system.

7
8 **Claim 39.** A prescription management system according to
9 **Claim 2** comprising a drug alert subsystem for communicating
10 alerts relating to unfavorable or cautionary characteristics
11 of particular drugs wherein said alerts are associated with
12 system information on the drug so that when a user calls up
13 the drug in question, they receive the warning or alert, or
14 other special message.

15
16 **Claim 40.** A prescription management system according to
17 **Claim 39** wherein said drug alert subsystem is operative to
18 communicate drug withdrawal information to system users
19 electronically in real time or when said withdrawn drug is
20 selected for prescribing or a warning is posted directly to
21 the prescription.

22
23 **Claim 41.** A prescription management system according to
24 **Claim 40** whereby a drug can be withdrawn from the market the
25 same day by making a system entry preventing completion of a
26 prescription for the withdrawn drug.

1 Claim 42. A prescription management system according to
2 Claim 40 wherein current users of a drug or medication can
3 be identified from prescription history records, referencing
4 not only drugs prescribed, but also prescription expiry
5 dates and both the patient and their doctor are notified of
6 said drug withdrawal optionally for the physician via direct
7 point-to-point electronic mail.

8
9 Claim 43. A prescription management system according to
10 Claim 1 comprising onscreen electronic mail access to other
11 users of said system, said electronic mail capability
12 additionally being linked with said prescription creation
13 function and enabling a prescriber-user to append an
14 electronic record to a prescription or prescription-related
15 record.

16
17 Claim 44. A prescription management system according to
18 Claim 43 wherein said electronic mail provides a platform
19 for accessing other artificial intelligence and expert
20 systems and optionally providing linkage for transaction
21 services such as the ordering and reviewing of scheduling
22 and similar administrative functions.

23
24 Claim 45. A prescription management system according to
25 Claim 1
26 comprising a patient-selection subsystem whereby preliminary

1 selection of groups of patients can be made by providing
2 multiple patient lists selected from the group consisting of
3 "Today's Patients", "In-Patients", "Out-Patients", "Private
4 Patients" and others.

5
6 **Claim 46.** A prescription management system according to
7 Claim 45 wherein said patient lists are system-maintained,
8 on an ongoing basis, using the latest data available to the
9 system and include intelligent patient selection means
10 enabling the user to select a convenient group of patients
11 that has a high probability of including the next patient or
12 patients to be encountered, thereby speeding access and
13 retrieval of a desired patient record.

14
15 **Claim 47.** A prescription management system according to
16 Claim 1 comprising onscreen access to drug detail
17 information as to indications, interactions, side effects
18 and precautions.

19
20 **Claim 48.** A prescription management system according to
21 Claim 1 comprising a drug literature-retrieval subsystem to
22 retrieve drug -related information across a network from a
23 remote heterogenous database for display to said user in
24 real time.

25
26 **Claim 49.** A prescription management system according to

1 Claim 48 wherein said drug literature-retrieval subsystem
2 provides the user with an access point to full disclosure
3 and prescribing information on a selected drug and wherein
4 available said drug information is selected from the group
5 consisting of drug-treatment guidelines, one or more
6 literature references supporting said guidelines, details of
7 the particular conditions for which a system-suggested
8 alternative drug has been found effective, adverse
9 conditions, preferred dosages and administration routes,
10 literature sources and other relevant drug-prescribing
11 information.

12
13 **Claim 50.** A prescription management system according to
14 Claim 49 wherein said drug literature-retrieval subsystem is
15 operative to enable a physician, to have a hard or printed
16 copy, or other media form of relevant studies or literature
17 sent to them by onscreen selection, said onscreen selection
18 being system-communicated to a source for said study or
19 literature information.

20
21 **Claim 51.** A prescription management system according to
22 Claim 49 wherein said drug literature-retrieval subsystem is
23 operative to provide a simple nonintrusive technique for
24 bringing new drug information to physicians at a point of
25 care when creating a prescription.

26

1 **Claim 52.** A prescription management system according to
2 Claim 49 comprising an outcome study subsystem for selecting
3 outcome study participants by centrally maintaining patient-
4 directed patient-record-access specifications whereby the
5 system can include records of patients agreeable to becoming
6 study participants in such outcome studies pursuant to
7 indications in their patient-record-access specifications
8 optionally with output of said study data being controlled
9 to comply with access specifications of prescribers and
10 organizations having proprietary rights thereto.

11
12 **Claim 53.** A prescription management system according to
13 Claim 1 comprising a new drug surveillance subsystem to
14 conduct post introduction market surveillance of new drugs
15 for adverse outcomes to the treatment of a specified
16 condition or conditions with the newly introduced drug.

17
18 **Claim 54.** A prescription management system according to
19 Claim 53 wherein said new drug surveillance subsystem is
20 operative to monitor patients reporting new problems after
21 having been prescribed the new drug in question, refer such
22 new problems to the physician user to qualify them for
23 medical relevance and then statistically compare a
24 collection of similar reports with data on a pool of
25 similarly treated patients for significance.

26

1 Claim 55. A prescription management system according to
2 Claim 1 wherein said condition list comprises at least five
3 conditions, and said drug list comprises at least five
4 drugs.

5
6 Claim 56. A prescription management system according to
7 Claim 1 wherein said drug information comprises associated
8 condition information and dosage information for at least
9 about fifty percent of all prescribable FDA-approved drugs.

10
11 Claim 57. A prescription management system according to
12 Claim 1 comprising means to output a newly created
13 electronic prescription in any desired form such as to
14 print, to local or remote storage or to remote file transfer
15 as an electronic prescription.

16
17 Claim 58. A prescription management system according to
18 Claim 1 comprising means for transmitting said electronic
19 prescription across a network for fulfillment by a specified
20 pharmacy.

21
22 Claim 59. A prescription management system according to
23 Claim 57 comprising a printed dosage schedule output for
24 said patient.

25
26 Claim 60. A prescription management system according to

1 Claim 1 wherein multiple physicians accessed by a patient
2 utilize the system described herein, with common online
3 access to, and assembly of, a patient's prescription history
4 record whereby that record provides a current record of new
5 prescriptions, then a common abuse can be controlled wherein
6 a patient presents a problem or condition to more than one
7 physician to obtain multiple prescriptions with a view to
8 indulging in abusive ingestion or illicit resale.

9
10 **Claim 61.** A prescription management system according to
11 Claim 1 wherein the system also provides, for example in the
12 patient's history record, notification from a pharmacy, or
13 from a drug benefit plan linked to the pharmacy, of
14 fulfillment of a prescription, and that information is
15 available to the prescriber, for example from the patients'
16 history record, another common abuse wherein a patient
17 pleads loss of a prescription to obtain a duplicate, can
18 also be prevented.

19
20 **Claim 62.** A prescription management system according to
21 Claim 1 wherein the system also provides, for example in the
22 patient's history record, notification from a pharmacy, or
23 from a drug benefit plan linked to the pharmacy, of
24 fulfillment of a prescription, and that information is
25 available to the prescriber, for example from the patients'
26 history record, wherein a patient's failure to have a

1 prescription fulfilled indicating discontinuance of the
2 prescribed therapy can be monitored and possibly corrected.
3

4 Claim 63. A prescription produced by the system of claim 1
5 output in a form selected from the group consisting of
6 electronic, paper, digitized voice and fax.
7

8 Claim 64. A prescription management system for electronic
9 prescription creation by a prescriber at a point of patient
10 care, said prescription being usable by a pharmacist to
11 dispense drugs, said prescription management system
12 comprising electronic posting means to select and capture in
13 said prescription:

- 14 i) a patient identifier;
15 ii) a prescribed drug;
16 iii) a dosage for said prescribed drug; and
17 iv) a patient condition intended by said prescriber to
18 be mitigated by said prescribed drug.
19

20 Claim 65. A prescription management system according to
21 Claim 64 further comprising an onscreen drug selection
22 procedure having a patient condition list specifying
23 multiple possible patient conditions, having a drug list
24 specifying multiple possible prescribable drugs and having
25 drug specification means to select and post a desired drug
26 to said prescription;

1 wherein drugs in said drug list are classified according to
2 a patient condition for which said drugs have efficacy and
3 said onscreen drug selection procedure lists multiple drugs
4 for treating each said patient problem.

5
6 **Claim 66.** A prescription management system according to
7 Claim 64 comprising drug formulary information being a
8 selected list of drugs being preferred for prescribing by a
9 drug benefit provider to said patient.

10
11 **Claim 67.** In combination, a host computer facility and a
12 prescription management system according to claim 64
13 implemented on said host computer facility said host
14 computer facility supporting network delivery of user-
15 relevant components of said prescription management system
16 to multiple remote user interface devices and providing data
17 and communications resources for users to draw upon
18 employing said interface devices.

19
20 **Claim 68.** A combination according to claim 67 wherein said
21 host computer facility can communicate with multiple
22 heterogenous remote databases to retrieve complementary data
23 elements from said databases and comprises:

- 24 i) a dynamic record assembly procedure for online assembly
25 of a data record from said complementary data elements;
26 and

1 ii) a user-device communication procedure to deliver said
2 dynamically assembled record to a calling user-
3 interface device as an integral data component of said
4 prescription management system.

5
6 **Claim 69.** A professional product specification system for
7 electronically creating a technical specification usable by
8 a professional to specify technical products said product
9 specification system comprising:

10 a) electronic posting means to select and capture in said
11 prescription:

12 i) a customer identifier;

13 ii) a specified product; and

14 iii) product specifications; and

15 b) an onscreen product selection procedure having a
16 product benefit list specifying multiple possible
17 customer benefits having a product list specifying
18 multiple possible specifiable products and having
19 product specification means to select and post a
20 desired product to said specification;

21 wherein products in said product list are classified
22 according to a customer-useful technical purpose attainable
23 with said products and said onscreen product selection
24 procedure lists multiple products for providing each said
25 customer benefit.

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08/330742

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PREScription MANAGEMENT SYSTEM

ABSTRACT OF THE DISCLOSURE

TECHNICAL FIELD

- 1 This invention relates to professional data management
- 2 systems useful in the production of product specification
- 3 documents such as prescriptions, service or parts orders,
- 4 insurance contracts and the like that require detailed
- 5 product and history information from multiple extensive
- 6 information sources, especially remote heterogenous sources.
- 7 More particularly, the invention relates to systems that
- 8 assist professionals perform their everyday work in
- 9 specifying customized technical products. A particularly
- 10 preferred embodiment relates to a computer-implemented
- 11 prescription management system to assist physicians in
- 12 prescribing and reviewing drugs.